IN THE SPECIFICATION

Please replace the paragraph beginning at page 50, line 3 with the following rewritten paragraph:

With the aerial image measurement unit 59 that has the arrangement described above, on measuring the projected image (aerial image) of the measurement marks formed on the reticle R or the reticle mark plate RFM via the projection optical system PL (this will be described later), when the illumination light IL having passed through the projection optical system Pl illuminates the slit plate 90, the illumination light IL that has passed through the slit 22 on the slit plate 90 is guided outside the wafer stage WST after passing through the lens 84, the mirror 88, the lens 86, and the light transmittance lens 87. And the optical path of the light that has been guided outside the wafer stage WST is bent vertically upward by the mirror M. The illumination light IL, being bent upward, is photo-detected by the optical sensor 24 via the photodetection lens 89, and the photoelectric conversion signals (light amount signals) P from the optical sensor 24 corresponding to the photo-detected amount is sent to the main controller 20 via the signal processing circuit 42.

Please replace the paragraph beginning at page 53, line 1 with the following rewritten paragraph:

With the aerial image measurement unit 59' indicated in FIG. 3, on measuring the projected image (aerial image) of the measurement mark PM formed on the reticle R or the reticle mark plate RFM via the projection optical system PL, when the illumination light IL having passed through the projection optical system P1 illuminates the slit plate 90 that structure the aerial image measurement unit 591, the illumination light IL that has passed through the slit 22 on the slit plate 90 is incident on the light entering end 85a of the light guide 85 after passing through the lens 84, the mirror 88, and the lens 86. The light guided

by the light guide 85 is guided out of the wafer stage WST via the light transmittance lens 87, after being emitted from the outgoing end 85b of the light guide 85. And the light guided outside the wafer stage WST is photo-detected by the optical sensor 24 via the photodetection lens 89, and the photoelectric conversion signals (light amount signals) P from the optical sensor 24 corresponding to the photo-detected amount is sent to the main controller 20.

Please replace the paragraph beginning at page 62, line 26 with the following rewritten paragraph:

In addition, on both edges in the Y-axis direction in the center of the effective irradiation area IAF in the X-axis direction, a glass portion (removed area) around 1 mm square in size where other marks cannot be formed are arranged, and within the removed areas, rotation adjustment marks $PM\theta_1$ and $PM\theta_2$ are formed of chromium and the like. Also, around the center portion of the Y-axis direction of the effective irradiation area IAF, a plurality of [[AIS]] mark blocks 62_1 are arranged along in the X-axis direction at a predetermined interval, for example, of 4 mm (1 mm on the wafer, in the case the projection magnification is 1/4). And other than the [[AIS]] mark blocks 62_2 arranged at an interval of 4 mm, [[AIS]] mark blocks 62_2 are arranged at positions capable of being set as a detection point within the effective field of the projection optical system PL that correspond to the irradiating point of the image forming light of the multiple focal position detection system (60a, 60b). Therefore, in this embodiment, when performing for example, measurement of the image plane shape of the projection optical system PL, or measurement for calibration to set the offset with respect to the output of each sensor of the multiple focal position detection system (60a, 60b) or to re-set the origin position (detection base position) and the like by aerial image measurement, it becomes possible to measure the position in the optical axis direction (Z position) of the projection optical system PL with the center of the slit 22 of the

slit plate 90. Accordingly, the plane accuracy of the slit plate 90 can be moderately set. Hereinafter, the [[AIS]] mark blocks 62_1 and the [[AIS]] mark blocks 62_2 will be referred to as [[AIS]] mark blocks 62 without any distinction, except for cases when necessary.

Please replace the paragraph beginning at page 64, line 6 with the following rewritten paragraph:

An example of the mark arrangement within each [[AIS]] mark block 62 will be described next, based on FIG. 8. FIG. 8 shows an enlarged view of the [[AIS]] mark block 62. As is shown in FIG. 8, within the [[AIS]] mark block 62, negative type alignment mark sub-blocks $63a_1$ and $63a_2$, positive type alignment mark sub-blocks $63b_1$ and $63b_2$, a negative type lines and spaces mark sub-block 64a, a positive type lines and spaces mark sub-block 64b, a negative type sequential coma mark sub-block $65a_1$ and $65a_2$, a positive type sequential coma mark sub-block $65b_1$ and $65b_2$, negative type linear box mark sub-blocks $66a_1$ and $66a_2$, positive type linear box mark sub-blocks $66b_1$ and $66b_2$, a negative type additional mark sub-block 67a, a positive type additional mark sub-block 67b, and the like are arranged. Hereinafter, lines and spaces will be shortened to L/S.

Please replace the paragraph beginning at page 66, line 4 with the following rewritten paragraph:

Within the positive type additional mark sub-block 67b, an artificial isolated line mark PM_{17} made up of L/S marks with a duty ratio other than 1:1 such as 1:9 having various line widths, a cuneiform mark [[(SMP mark)]] PM_{18}, and positive marks of other isolated lines and the like are arranged. These marks, PM_{17} and PM_{18}, are also respectively arranged in the X-axis direction and the Y-axis direction.

Please replace the paragraph beginning at page 67, line 24 with the following rewritten paragraph:

Within the positive type alignment mark sub-block $63b_1$, a positive mark (FIA mark) PM_{19} made up of, for example, L/S marks with a 1:1 duty ratio having a line width of 24 μm which period direction is in the X-axis direction, is arranged. In addition, within the positive type alignment mark sub-block $63b_2$, a positive mark (FIA mark) PM_{20} made up of, for example, L/S marks with a 1:1 duty ratio having a line width of 24 μm which period direction is in the Y-axis direction, is arranged.

Please replace the paragraph beginning at page 76, line 25 with the following rewritten paragraph:

On detecting the best focal position, L/S marks with a duty ratio of 1:1 on the reticle mark plate RFM (or on the reticle R), such as the L/S negative mark PM_1 that has a line width of 0.8 μm (line width of 0.2 μm on the wafer) arranged within the [[AIS]] mark block 62_1 located in the center along the X-axis direction on the reticle mark plate RFM, are used as the measurement mark PM. The detection of the best focal position, is to be performed under the same conditions as the simulation described above.

Please replace the paragraph beginning at page 80, line 8 with the following rewritten paragraph:

To begin with, the case using the reticle mark plate RFM will be described. In this case, the main controller 20 first of all moves the reticle stage RST, so that measurement marks such as the measurement mark PM_1 arranged within each [[AIS]] mark block 62 on the reticle mark plate RFM are arranged at a plurality of points within the effective field of the projection optical system PL.

Please replace the paragraph beginning at page 80, line 23 with the following rewritten paragraph:

Then, the main controller 20 moves the reticle stage RST so that measurement marks such as the measurement mark PM_1 arranged within each [[AIS]] mark block 62 on the reticle mark plate RFM are arranged at a different plurality of points within the effective field of the projection optical system PL. The best focal position is likewise detected at each point, and the detection results are stored in the memory unit.

Please replace the paragraph beginning at page 83, line 18 with the following rewritten paragraph:

The case when using the reticle mark plate RFM will be described first. In this case, on detecting the spherical aberration, for example, a plurality of L/S marks are used as measurement marks PM. The measurement marks PM have the same line width with different periods arranged in the Y-axis direction at a predetermined interval, and are arranged within the [[AIS]] mark block 62_1 which is located along the center in the X-axis direction on the reticle mark plate RFM. For example, two L/S marks in the Y-axis direction, to be more specific, a first L/S mark that has a line width of 1 μm and a period of 2 μm in the Y-axis direction and a second L/S mark that has a line width of 1 μm and a period of 4 μm in the Y-axis direction are used as the measurement marks PM.

Please replace the paragraph beginning at page 87, line 12 with the following rewritten paragraph:

To begin with, the case of using a reticle mark plate RFM will be described. On measuring the magnification and the distortion of the projection optical system PL, the BOX mark PM_{21}, which is a 120 square μm (30 μm on the surface of a wafer with a 1/4

magnification) mark arranged in each [[AIS]] mark block 62 on the reticle mark plate RFM, is used as the measurement mark PM.

Please replace the paragraph beginning at page 98, line 5 with the following rewritten paragraph:

In the case of measuring the coma by exposure, the method using the line width abnormal value of the small L/S mark image around the limit of resolution is known. The line width abnormal value, here, is a value serving as an indicator to indicate the asymmetrical degree of the resist image RI formed by exposure. For example, in the case of a resist image of a 0.2 μm L/S mark (design value) as is shown in FIG. 23, the line width abnormal value A can be defined as in the following equation (4), using the line widths L1 and L5 on both edges.

$$A = \frac{L1 - L5}{L1 + L5} \quad \ldots (4)$$

Please replace the paragraph beginning at page 99, line 1 with the following rewritten paragraph:

The measurement method of the coma by the line width abnormal value is explained in the following description. The case when the reticle mark plate is used will be described first. On measuring the coma, for example, an L/S negative mark having a line width of 0.8 μm (0.2 μm on the wafer surface) with a 1:1 duty ratio and a period in the Y-axis direction, which is arranged within each [[AIS]] mark block 62 on the reticle mark plate RFM, is used as the measurement mark PM.

Please replace the paragraph beginning at page 132, line 11 with the following rewritten paragraph:

Next, the making method of the exposure apparatus [[10]] <u>100, 110</u> will be described.

Please replace the paragraph beginning at page 132, line 13 with the following rewritten paragraph:

On making the exposure apparatus [[10]] <u>100, 110</u>, first of all, a plurality of lenses, an illumination optical system including optical elements such as a mirror, a projection optical system PL, a reticle stage system and a wafer stage system made up of various mechanical components, and the like are respectively built as units, and adjustment operations such as optical adjustment, mechanical adjustment, and electrical adjustment are performed so that the units respectively show the desired performance as a sole unit.

Please replace the paragraph beginning at page 135, line 12 with the following rewritten paragraph:

When the above pre-process is completed in the respective steps in the wafer process, a post-process is executed as follows. In this post-process, first, in step 215 (resist formation step), the wafer is coated with a photosensitive agent. Next, as in step 216 (exposure step), the circuit pattern on the mask is transferred onto the wafer by the above exposure apparatus and method. <u>And, in step 217 (development step), the wafer that has been exposed is developed.</u> In step 218 (etching step), an exposed member on a portion other than a portion where the resist is left is removed by etching. Finally, in step 219 (resist removing step), the unnecessary resist after the etching is removed.